

### **Abstract of the Disclosure**

A flywheel energy storage system includes an energy storage flywheel supported on a bearing system for rotation about a substantially vertical axis inside in an evacuated chamber enclosed within a sealed container. A motor and a generator accelerates and decelerates the flywheel for storing and retrieving energy. A tilt sensor detects if the orientation of the axis of rotation is outside of tolerance limits from vertical and triggers a signal to signal appropriate system functions to protect the system from damage. .